

Summary of the Office Action

In the Office Action dated December 15, 2004, claims 1, 3-17 and 19-33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,373,540 to Munakata et al. (hereinafter "Munakata") in view of U.S. Patent No. 6,208,399 to Ohta et al. (hereinafter "Ohta"). Claims 2 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Munakata and Ohta, in further view of U.S. Patent No. 6,545,730 Hwang (hereinafter "Hwang").

Summary of the Response to the Office Action

Applicants respectfully traverse these rejections and the Office Action's interpretation of the applied references, and respectfully request reconsideration of this application, withdrawal of all rejections, and the timely allowance of all pending claims.

All Claims Comply with 35 U.S.C. § 103(a)

Claims 1, 3-17 and 19-33 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Munakata in view of Ohta. Claims 2 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Munakata and Ohta, in further view of Hwang. Applicants respectfully traverse these rejections and the Office Action's interpretation of the applied references for the following reasons.

1. **Munakata does not teach or suggest first and second pixel electrodes**

In embodiments of the present invention as recited in independent claim 1, a liquid crystal display device having a COT structure array substrate includes at least a first pixel electrode and a second pixel electrode. The method of forming a liquid crystal display device

having a COT structure array substrate, as recited in independent claim 17, includes forming at least a first pixel electrode and a second pixel electrode. The Office Action asserts at page 3 that reference 9b in FIG. 1A of Munakata is a first pixel electrode and reference 11 is a second pixel electrode. Applicants respectfully disagrees with this characterization of the Munakata reference. Applicants respectfully submit that , as discussed at column 4, lines 62-63 in Munakata, reference 9b is a metal film which is part of the light-reflection layer 9. Moreover, the metal layer 9b is made of aluminum (column 5, line 18) while the pixel electrode 11 of Munakata is made of a transparent material, such as ITO (column 9, line 19). Thus, Applicants respectfully submit that reference 9b of Munakata is not a first pixel electrode.

2. Munakata do not teach or suggest the second pixel electrode contacting the first pixel electrode at a portion over the black matrix.

In embodiments of the present invention as recited in independent claim 1, a liquid crystal display device having a COT structure array substrate includes first and second pixel electrodes with at least the feature that the second pixel electrode contacts the first pixel electrode at a portion over the black matrix. The method of forming a liquid crystal display device having a COT structure array substrate, as recited in independent claim 17, includes forming first and second pixel electrodes with at least the feature that the second pixel electrode contacts the first pixel electrode at a portion over the black matrix. The Office Action states at page 3 that Munakata discloses “a first pixel electrode (fig. 1a, ref. 9b) ... and a second pixel electrode (fig. 1a, ref. 11) at a portion over the black matrix.” Applicants respectfully submit that, to the extent that references 9b and 11 of Munakata could be interpreted as first and second pixel electrodes, respectively, the corresponding metal layer 9b of Munakata does not contact the pixel electrode 11 at a portion over the black matrix BM of Munakata.

Applicants respectfully submit that, as recited at column 6, line 43-45 of Munakata, “The pixel electrode 11 is electrically connected to the drain electrode 22 by the intermediate electrode 12a and the light-reflection layer 9.” To the extent that the intermediate electrode 12a could be interpreted as providing a connection between the metal layer 9b and the pixel electrode 11, the intermediate electrode 12a is disposed within the planarization layer 14 overlapping a portion of the metal layer 9b near the gate electrode 16 and the drain electrode 22, as depicted in FIGs. 1A and 1B. Thus, the intermediate electrode 12a is not positioned at a portion over the black matrix BM, which “is formed in the shape of a lattice so as to surround each pixel electrode 11” (column 5, lines 30-32, and FIGs 1A and 1B). Accordingly, Applicants respectfully submit that the metal layer 9b of Munakata does not contact the pixel electrode 11 at a portion over the black matrix.

3. Ohta and Hwang fail to cure the deficiencies of Munakata.

Applicants respectfully submit that Ohta fails to cure the deficiencies of Munakata set forth above. Thus, the combination of Munakata and Ohta does not teach or suggest each of the features of the instant invention as recited in independent claims 1 and 17, respectively. As pointed out in MPEP § 2143.03, “[to] establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” Thus, Applicants respectfully submit that independent claims 1 and 17 are in condition for allowance as not being anticipated by Munakata and Ohta.

Applicants further submit that claims 2-16 and 18-33 are allowable for at least the same reasons as set forth above with regard to independent claims 1 and 17 upon which they depend, respectively, and for the additional features they each recite. Moreover, Hwang fails to cure the

deficiencies of Munakata and Ohta with regard to claims 2 and 8. Accordingly, Applicants respectfully request that the rejections of claims 1-33 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing, Applicants respectfully request reconsideration, withdrawal of all rejections and objections, and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

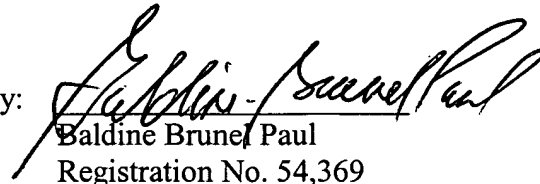
If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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